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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/630,854

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David E. Johnson

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EXAMINER

HIRL, JOSEPH P

ART UNIT

PAPER NUMBER

2129

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/630,854	Applicant(s) JOHNSON ET AL.	
	Examiner Joseph P. Hirl	Art Unit 2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-39 are pending in this application.

Claim Objection

2. Claim 19 is an improper Markush and must be corrected.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 7 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "optionally" is relative and renders the claim indefinite.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-39 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims do not identify a practical application that produces a useful, tangible and concrete result using the claimed methodology. Rubber-Tip Pencil Co. v. Howard, 87 U.S. (20 Wall.) 498, 507 (1874)

The USPTO published the "Interim Guidelines for Examination of Patent Applications for Subject Matter Eligibility" on October 26, 2005 and posted such guidelines to the uspto.gov website which are used in this examination.

A useful result must manifest the features of specificity, substantialness and creditability. The instant application lacks specificity as the following examples exhibit:

Claims 1., 35., 39. ...selectively presenting for review and correction ...

Claim 25 ... any annotation ... is presented for review

Claim 26. ...any annotation ...will be presented to the user

Also a tangible result must not exhibit abstractness. The instant application has abstract results as noted by the following examples:

Claims 1., 35., 39. ...selectively presenting for review and correction ... if such representations never leave the processor, there isn't any tangible result.

Claim 25. ... iteratively learning never produces a tangible result

Claim 26. ...will be presented to the user ... is not a tangible result until such has been presented to the user.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Basu et al (U.S. Pub 2004/0205482, referred to as Basu).

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claims 1, 35, 39

Basu anticipates providing at least partially annotated text data or unannotated text data with seeds or seed models of instances of at least one named entity or class to be learned (**Basu**, Abstract); iteratively learning annotators for the at least one named entity or class using a machine learning algorithm (**Basu**, Abstract); applying the learned annotators to text data resulting in the annotation of at least one named entity or class annotation instance (**Basu**, Abstract); and selectively presenting for review and

correction, if determined, representations of the at least one named entity or class annotation instance identified by the applying of the learned annotators (**Basu**, ¶ 0036; Examiner's Note (EN): disambiguate and correction are functionally equivalent).

Claim 2

Basu anticipates the annotations instances are selectively presented for review and correction, if determined, based on a predetermined threshold value of a confidence level (**Basu**, ¶ 0072).

Claim 3

Basu anticipates the step of iteratively learning includes incrementally improving the learned annotators (**Basu**, ¶ 0036; EN: disambiguate and correction are functionally equivalent; iteration will reduce disambiguation).

Claim 4

Basu anticipates the at least one named entity is any syntactic, semantic or notional type that can be identified as a type and named (**Basu**, ¶ 0008; EN: such is the classification operation).

Claim 5

Basu anticipates the seeds or seed models are at least one of lists, dictionaries, glossaries, patterns and database entries (**Basu**, ¶ 0013; EN: database entries are synonymous with multimodal representations of semantic classes).

Claim 6

Basu anticipates providing a log of corrections of removed or altered annotation instances (**Basu**, ¶ 0013; EN: database entries are synonymous with multimodal representations of semantic classes; a log is a database).

Claim 7

Basu anticipates the log of corrections are optionally used to override any of the at least one named entity or class annotation instance inconsistent with the log (**Basu**, ¶ 0013; EN: database entries are synonymous with multimodal representations of semantic classes; a log is a database; storing such an entity will cause an override).

Claim 8

Basu anticipates preprocessing groups of words or phrases into single units before the iteratively learning step (**Basu**, ¶ 0036; EN: disambiguate requires preprocessing).

Claim 9

Basu anticipates wherein the applying step provides confidence levels for each annotation instance such that the learned annotators and their respective confidence levels are used to selectively present some of the representations of the at least one named entity or class annotation instance (**Basu**, ¶ 0072).

Claim 10

Basu anticipates if confidence levels do not fall within a closed interval then a transformation will be applied to map a confidence level range onto the closed interval

[0 ... 1] for purposes of presentation to the user (**Basu**, ¶ 0074-0076; EN: confidence level is a closed interval since all values are real).

Claim 11

Basu anticipates one of (i) an automatic acceptance of the at least one named entity or class annotation instance, (ii) an automatic rejection of the at least one named entity or class annotation instance, and (iii) the selective presentation of the at least one named entity or class annotation instance (**Basu**, ¶ 0028).

Claim 12

Basu anticipates the annotation instances above the adjusted confidence level will automatically be accepted as valid and used in a next training phase; and the annotation instances below the adjusted confidence level will automatically be rejected as invalid (**Basu**, ¶ 0028).

Claim 13

Basu anticipates the annotator for a particular named entity or class includes using labeling schemes (**Basu**, ¶ 0028).

Claim 14

Basu anticipates the learned annotators are applied to text data to annotate new instances or correct previous annotations, wherein each of the at least one named entity or class annotation instance is assigned a confidence level estimating a probability that the assignment is correct (**Basu**, ¶ 0028).

Claim 15

Basu anticipates on of: (i) selecting specific annotation instances, (ii) selecting an entire list of annotation instances that was presented for viewing, and (iii) inspecting bins of the annotation instances in context, where the bins correspond to confidence level ranges (**Basu**, ¶ 0028; EN: such are the selected examples).

Claim 16

Basu anticipates wherein the bins allow a user to inspect some examples and if they are correct, choose to one of accept and reject with one action all instances in that bin (**Basu**, ¶ 0028; EN: bins are sets of categories or classifications related to annotations).

Claim 17

Basu anticipates if the user determines some examples in a particular bin of the inspected bins are correct, all of the at least one named entity or class annotation instance can be accepted within the particular bin and all bins with higher confidence level ranges than the accepted bin such that, at one time, entire groups of all the at least one named entity or class annotation instance can be accepted (**Basu**, ¶ 0028; EN: ambiguity is the discriminator and sets the criteria for acceptance).

Claim 18

Basu anticipates wherein if the user determines some examples in a particular bin of the inspected bins are incorrect, all of the at least one named entity or to class annotation instance can be rejected within the particular bin and all bins with lower confidence level ranges than the rejected bin such that, at one time, entire

groups of all the at least one named entity or class annotation instance can be rejected (**Basu**, ¶ 0028; EN: ambiguity is the discriminator and also sets the criteria for rejection).

Claim 19

Basu anticipates comprising correcting the at least one named entity or class annotation instance by deleting annotation instances, rebracketing annotation instances, relabeling annotation instances, adding or deleting annotation instances or any combination of rebracketing and relabeling (**Basu**, ¶ 0028; EN: ambiguity affects the relabeling).

Claim 20

Basu anticipates one of at each stage of learning in the iterative learning step, previously learned annotators are discarded and entirely new annotators are learned from current training data, and at each stage of learning in the iterative learning step, previously learned annotators are updated (**Basu**, ¶ 0028; EN: such will be the action taken with ambiguous terms).

Claim 21

Basu anticipates correcting the annotation instances when a confidence level associated with the annotation instances falls within a predetermined range (**Basu**, ¶ 0028).

Claim 22

Basu anticipates confidence levels associated with each of the annotation instances is generated using the Generalized Winnow learning algorithm (**Basu, ¶ 0028; EN: applicant's Generalized Winnow technique is a probabilistic value**).

Claim 23

Basu anticipates the step of determining that a sequence of token level classifications and associated confidence levels constitutes an instance of a type of named entity or class (**Basu, ¶ 0028; EN: such is Basu's maximum confidence for the system; functionally the same in achieving classification**).

Claim 24

Basu anticipates the determining step determines that a consecutive sequence of one or more tokens each of which is labeled with one or more of the types of named entity or class and each type assignment of which has an associated confidence level that equals or exceeds a required confidence level to be in a type of named entity or class is a candidate annotation instance of the type of named entity or class (**Basu, ¶ 0028, 0034, 0035; 0038; EN: such is Basu's annotation concept of removing ambiguity and annotating by classifying**).

Claims 25, 38

Basu anticipates providing examples of a type of a named entity and unannotated textual data (**Basu, Abstract**); and iteratively learning annotators based on at least one of the examples of a named entity and unannotated textual data (**Basu, Abstract**), where at the end of each iteration, any annotation, generated from the

learned annotators, having a confidence level within a confidence level range is presented for review and, if required, corrected based on feedback (**Basu**, Abstract; ¶ 0028; EN: such is feedback from the user).

Claim 26

Basu anticipates a user sequentially labeling annotation instances in a current document from a document set (**Basu**, Abstract); a machine learning algorithm concurrently training on the documents in the document set to learn at least one annotator for at least one named entity or class (**Basu**, Abstract); and assigning a confidence level to each of the annotation instances by the learned at least one annotator such that any annotation instance which has a confidence level that is equal to or above a predetermined confidence level threshold and that occurs in a current document being labeled will be presented to the user for review and possible action (**Basu**, Abstract; ¶ 0028).

Claim 27

Basu anticipates discarding the annotation instances determined by the machine learning system which fall below the predetermined confidence level threshold (**Basu**, Abstract; ¶ 0028; EN: such is the concern for ambiguity).

Claim 28

Basu anticipates each named entity or class type has a separate confidence level threshold (**Basu**, ¶ 0072).

Claim 29

Basu anticipates wherein the machine learning system continuously updates its knowledge state based on flow of new annotations from the labeled documents and applies this knowledge state, as an updated annotator or annotators, to a current document being labeled to suggest a new or new annotations for the current document being worked on (**Basu**, Abstract; claim 14).

Claim 30

Basu anticipates providing sample text with seeds for the type of named entity or class as training data (**Basu**, Abstract; EN: seeds are example data).

Claim 31

Basu anticipates one of the user explicitly accepting the presented annotation instance; the user explicitly rejecting the presented annotation instance; the user rebracketing and explicitly accepting the presented annotation instance; the user relabeling and explicitly accepting the presented annotation instance; and the user rebracketing, relabeling and explicitly accepting the presented annotation instance (**Basu**, ¶ 0028; EN: user rejects annotation and establishes an alternative to remove the ambiguity).

Claim 32

Basu anticipates further comprising accepting annotation instances which are not explicitly rejected by the user (**Basu**, ¶ 0028; EN: such would be the user not changing a condition of ambiguity).

Claim 33

Basu anticipates wherein the accepting of annotation instances not explicitly rejected by the user is accomplished implicitly by the user moving to a new document or explicitly by taking an acceptance action (**Basu**, ¶ 0028; EN: such would be the user not changing a condition of ambiguity).

Claim 34

Basu anticipates accepting annotation instances which were corrected, relabeled, rebracketed or added by the user (**Basu**, ¶ 0028; EN: such would be the user changing annotation under the consideration of ambiguity).

Claim 36

Basu anticipates a component to export the final annotators for use in processing electronic text (**Basu**, Abstract).

Claim 37

Basu anticipates a component to determine confidence levels associated with the individual annotation instances (**Basu**, 0072).

Examination Considerations

9. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ

541, 550-551 (CCPA 1969)” (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

10. Examiner’s Notes are provided with the cited references to prior art to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner’s Notes are not prior art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

11. Unless otherwise annotated, Examiner’s statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis and such would be obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie statement.

12. Examiner’s Opinion: ¶ 9. - 11. apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

13. The prior art of record and not relied upon is considered pertinent to applicant's disclosure.

- Dey et al, 2003/0061028
- Adams, JR. Et al, 2004/0123231
- Gupta et al, 6,956,593
- Gupta et al, 6,917,965
- Rivette et al, 6,389,434

14. Claims 1-39 are rejected.

Correspondence Information

15. Any inquiry concerning this information or related to the subject disclosure should be directed to the Primary Examiner, Joseph P. Hirl, whose telephone number is (571) 272-3685. The Examiner can be reached on Monday – Thursday from 6:00 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David R. Vincent can be reached at (571) 272-3080.

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Joseph P. Hirl
Primary Examiner
March 14, 2006